

REMARKS

The claims have been amended to define the nature of the metal phthalocyanine more precisely. more precisely. Support for the amendment is found at page 4 lines 9 and 10 of the specification. New claim 22 finds support on pages 2 and 3 of the specification where the a distinction is drawn between the catalysts of the present invention and the sulfonated catalysts of the prior art. New claim 23 finds support at page 4 lined 1 and 2 where it is taught that the catalyst should be one that is not leached out by alkali solution or hydrocarbon during the sweetening process.

As the Examiner notes, the Carlson reference uses a different catalyst from that which is specified in the present claims. However, the Examiner combines this with Mazgarov and asserts that this teaches a catalyst within the ambit of those specified by the applicants. The Applicants respectfully disagree The applicants have now defined the catalyst more specifically in all claims and especially in new claims 22 and 23. While it is submitted that it was clear from the original claims that they did not comprise the use of Mazgarov's sulfonated materials, especially in view of the discussion of the problems of using sulfonated materials in the introductory portion of the specification, the claims have been amended to make this even clearer. Such amendment is being made purely for the sake of expediency and does not indicate that the applicants agree that there is anything unpatentable about the claims as previously presented.

Two issues arise in considering whether the invention as claimed is obvious over the cited art. First there is the question of whether one skilled in th art would have regarded the teachings of Carlson and Mazgarov as being capable of combination. Secondly there is the question of whether if combination is possible, the combination points to the present invention. It is submitted that a negative answer is proper on both counts.

So far as the first question is concerned, Carlsom and Mazgarov relate to different types of processing. Carlson uses a catalyst which has been adsorbed on to a support (see column 2 lines 43-45) over which the material to be treated is passed. Mazgarov on the other hand uses his catalyst in an aqueous liquid phase which requires constant mixing of the

material being treated and the aqueous liquid containing the catalyst. It is well known that catalytic mechanisms are dependent upon the phase in which the catalyst is employed and that the surface chemistry of the catalyst, which plays an important role in the catalyst's performance, will be different depending on when the catalyst is employed in a solid or liquid phase. There is therefore no reason why one skilled in the art would seek to combine the teachings of these two documents. In order to combine documents to reach a conclusion of obviousness, it is necessary that one skilled in the art had some motivation to combine them. **Ruiz v. A. B. Chance Co.** 57 USPQ2d 1161 (2000). No such motivation exists in the present case. Therefore neither before nor after amendment are the claims obvious in the light of the cited art.

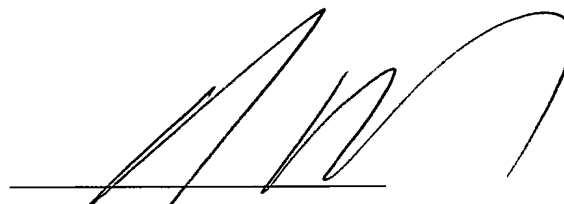
So far as the question of whether even if combination is permissible it points to the invention as claimed is concerned, the claimed invention involves the use of specific catalysts. Mazgarov refers to his compounds as "cobalt dihalohydroxysulfophthalocyanines". Such compounds do not fall within the definition "dichloro- or dibromo- cobalt or iron phthalocyanine". A fortiori, they do not fall within the definition of being unsulfonated as required by claim 22. Additionally they do not fall within the requirement of being insoluble in alkali or hydrocarbon so as to avoid being leached during the sweetening process as set out in claim 23. Enclosed herewith is a declaration by Gautam Das, one of the co-inventors of the present application explaining the solubility differences between sulfonated cobalt phthalocyanines and the compounds specified for use in the present claims.

The essence of the present invention is the selection of a phthalocyanine which is soluble in a medium that can be used to impregnate charcoal but which is insoluble under reaction conditions so as to avoid its leaching from charcoal during use. Dibromo- and dichloro- cobalt and iron phthalocyanines meet these requirements. Sulfonated cobalt phthalocyanines do not. Mazgarov's process involves contacting the petroleum or gas products being treated with an aqueous solution of an alkali metal hydroxide and its phthalocyanine. This is clearly not a simple operation since it must involve a continuous mixing of the petroleum and aqueous phases to achieve success. Such mixing is energy intensive and expensive. Use of an impregnated charcoal catalyst over which the material to be treated is passed is clearly preferable from the point of process operation. However,

Mazgarov had to use his more complicated and less efficient process technique because he failed to appreciate the possibility of using a phthalocyanine catalyst that could be readily impregnated on to a charcoal carrier while at the same time not being leached during process operations. This the applicants have done. Nothing in the art pointed to this possibility. The invention as claimed therefore meets the requirements of 35 USC 103.

In view of the foregoing it is believed that this application is now in order for allowance and reconsideration of the final rejection with a view to the issue of a early action to this end is respectfully solicited. If the Examiner believes it would be useful to discuss this matter either personally or in a telephone interview, he is requested to let us know so that this can be arranged.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. Richards', is written over a horizontal line.

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